

ABSTRACT OF THE DISCLOSURE

A system and method for controlling carbon dioxide (CO₂) emissions emanating from a gas source includes a CO₂ sorbent bed containing a regenerable sorbent. Exhaust gases flow through the CO₂ sorbent bed before being released into the atmosphere. The CO₂ sorbent bed traps CO₂ contained within the exhaust gas to control the amount of CO₂ finally exhausted to the atmosphere. At least two CO₂ sorbent beds are used such that while one is absorbing CO₂ from the gas stream another is being regenerated. The CO₂ sorbent bed is regenerated to release the trapped CO₂ for disposal or use in other processes. The CO₂ sorbent beds are cycled between absorbing CO₂ and regenerating to optimize absorption of CO₂.

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